



MSMR

Medical Surveillance Monthly Report

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Case Reports

Diarrheal outbreak, United Nations Battalion, Haiti

During June 1995, the senior medical officer for one of the United Nations (UN) battalions in Haiti called the Force Surgeon's office to report a fourfold increase in the rate of diarrhea over the previous two weeks. The Force Surgeon formed a five person preventive medicine (PM) team consisting of an infectious disease officer, a preventive medicine officer, an environmental science officer, and two preventive medicine technicians. The PM team's objective was to visit the site, conduct clinical, epidemiological, and environmental (water, food preparation, etc.) evaluations, and make recommendations to correct identified problems.

Although based in the same general vicinity, the battalion (n=850) experiencing the outbreak of diarrhea was located on one side of an airstrip while two smaller UN contingents (n=100, n=120) were located on the other side. Interviews were conducted with the senior medical officers for each of three contingents. The battalion had been in Haiti for three months during which they had observed 26 (3.0%) cases the first month, 13 (1.5%) cases the second month, and 80 (9.4%) cases the third month. Of the 80 cases identified during the third month, 68 (85%) had occurred during the preceding two weeks. In contrast to the battalion, the two smaller contingents had continued to observe only a sporadic and low proportion of sick call visits with a chief complaint of diarrhea. All three contingents were using potable bulk water provided by contractor. However, only the two smaller contingents were using bottled water that had been tested and approved for use.

The senior medical officer of the battalion reported that the patients' clinical presentation typically included 3 or greater loose stools over 24 hours, nausea/vomiting, and abdominal cramping. Approximately 10% of diarrhea cases had blood or mucous in their stools, and a low-grade fever. Fecal leukocytes had been identified from stool samples of 4 cases. After treatment with metronidazole and clotrimazole patients had resolution of their symptoms within 3 days. In addition, the battalion's health care staff reported having already conducted an extensive evaluation of possible causes for the increased rate of diarrhea. With the possible exception of yogurt, they believed that foodstuffs were not associated with the increased rate of diarrhea. Rather, they suspected that their battalion's increased use of several non-approved brands of bottled water, including three brands without labels, was temporally related to the rise in diarrhea

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cases. They also thought that the bulk water provided by the contractor was at times, not palatable and had an odor, possibly related to a high chlorine content.

Eight weeks earlier, the battalion had stopped using disposable plates and eating utensils due to their excessive cost. After a meal, each soldier had been responsible for scraping his plate, rinsing it along with the flatware, and placing them back into a chest assigned to his unit. Chests were kept on the ground, outside of the dining hall under a canopy. Crockery and flatware were not disinfected using either bleach or chlorine solutions during the cleanup process. The battalion had been using their own funds to purchase dishwashing soap and did not have scouring pads, disinfecting solution, and other cleaning items. It was reported that the battalion was in communication with UN supply personnel to correct the

lack of cleaning/disinfecting supplies.

From the battalion's supply of bottled water, four randomly selected water samples underwent testing. Samples were drawn from two labeled bottles and two unlabeled bottles. Bacteriological analysis revealed no presence of total of fecal coliforms. Clinical analyses were within acceptable limits.

The PM team made several recommendations:

1. Brands of bottled water that have not been approved for use by UN forces should not be made available to contingents. Veterinarians should identify non-approved brands of bottled water in the supply system.

2. The PM detachment should conduct a sanitary inspection of all bottled water manufacturing plants, which the UN is considering for use. Only approved brands of bottled water in sufficient quan-

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Responsibilities of the Unit Field Sanitation Team regarding Field Water Supplies

- (1) Coordinate mess sanitation, field waste disposal, and personal hygiene to prevent the spread of waterborne diseases (para 6-3a).
- (2) Check the unit supply for chlorine residual two times a day or at frequent intervals to ensure adequate residual per FM 21-10, appendix A, task 5 (para 6-3b).
- (3) Chlorinate unit water supplies per FM 21-10, appendix A, task 6.
- (4) Provide advice on protection of water trailers and other containers from heat to keep the water as cool as possible in hot regions and from cold to keep it from freezing in cold regions (para 6-3b(5)).
- (5) Maintain adequate stocks of iodine tablets and chlorination kit supplies per AR 40-5, chapter 1 (para 6-3b(4)).
- (6) Ensure exposed surfaces of water containers remain uncontaminated or are decontaminated in the event chemical or biological agents or nuclear weapons are employed on the battlefield (para 7-7, and. TM 3-220, para 7b).
- (7) Ensure all potable water containers (trailers, drums, Lyster bags, and cans) are maintained in a clean and sanitized condition (para 7-5).
- (8) Inspect water containers on a quarterly basis per FM 21-10, appendix A, task 4.
- (9) Instruct unit personnel in the proper use of individual water purification tablets and other emergency water treatment techniques per FM 21-10, chapter 2, section IV.

Reference: TB MED 577 Sanitary Control and Surveillance of Field Water Supplies, chapter 1 para 4-i.

TABLE I. Cases of selected notifiable conditions, United States Army.*
June, 1995

Reporting MTF/Post**	Total number of reports submitted June, 1995	Environmental Injuries			Viral Hepatitis			Malaria	Varicella	
		Active Duty		CO intox.				Active Duty	Active Duty	Other Adult
		Heat	Cold		A	B	C			
		Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995
NORTH ATLANTIC HSSA										
Walter Reed AMC	43	-	-	-	-	3	-	1	-	-
Aberdeen Prov. Ground	5	-	-	-	1	-	-	-	-	-
FT Belvoir, VA	16	1	-	-	-	-	-	-	-	-
FT Drum, NY	24	4	21	-	-	-	-	1	13	1
FT Eustis, VA	0	-	-	-	-	-	-	-	-	-
FT Knox, KY	2	-	-	-	-	-	1	1	-	-
FT Lee, VA	4	2	-	-	-	-	-	-	9	-
FT Meade, MD	0	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	0	-	-	-	-	-	-	-	-	-
CENTRAL HSSA										
Fitzsimons AMC	0	-	-	-	1	-	-	-	3	-
FT Carson, CO	68	-	-	-	-	-	-	-	6	-
FT Leonard Wood, MO	18	-	1	-	-	1	-	-	23	4
FT Leavenworth, KS	0	-	-	-	-	-	-	-	-	-
FT Riley, KS	15	-	1	-	-	-	-	-	-	-
SOUTH CENTRAL HSSA										
Brooke AMC	0	-	-	-	1	-	-	-	-	-
FT Hood, TX	0	5	-	-	-	1	-	-	26	1
FT Polk, LA	11	4	-	-	-	-	-	-	-	-
FT Sill, OK	93	-	-	3	-	-	-	-	-	-
Panama	14	4	-	-	3	2	1	-	-	-
SOUTHEAST HSSA										
Eisenhower AMC	14	-	-	-	-	1	1	-	1	-
FT Benning, GA	13	5	14	-	-	-	-	1	1	-
FT Bragg, NC	5	-	-	-	-	-	-	-	-	-
FT Campbell, KY	1	-	-	-	1	-	1	-	2	-
FT Jackson, SC	0	-	-	-	-	-	-	-	4	-
FT McClellan, AL	1	-	-	-	-	-	-	-	-	-
FT Rucker, AL	3	-	-	-	-	-	-	-	-	-
FT Stewart, GA	136	-	-	-	-	-	-	-	-	-
SOUTHWEST HSSA										
Wm Beaumont AMC	38	-	-	-	-	1	-	-	3	2
FT Huachuca, AZ	0	-	-	-	-	-	-	-	-	-
FT Irwin, CA	0	-	-	-	-	-	-	-	-	-
NORTHWEST HSSA										
Madigan AMC	2	-	-	-	-	-	-	-	-	-
FT Wainwright, AK	8	-	17	-	-	-	-	-	-	-
PACIFIC HSSA										
Tripler AMC	42	-	-	-	-	2	-	5	-	-
OTHER LOCATIONS										
Europe	15	-	4	2	-	1	-	-	6	1
Korea	39	-	8	-	-	1	-	-	12	-
Total	630	25	66	5	7	13	4	9	109	9

* Based on date of onset.

** Reports are included from parent and daughter clinics. Not all sites reporting.

Date of Report: 7-Jul-95

TABLE I. Cases of selected notifiable conditions, United States Army* (continued)
June, 1995

Reporting MTF/Post**	Salmonellosis			Shigella			Campylobacteriosis			Tuberculosis	
	Active Duty	Other		Active Duty	Other		Active Duty	Other		Active Duty	Other
		Adult	Child		Adult	Child		Adult	Child		
	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995
NORTH ATLANTIC HSSA											
Walter Reed AMC	4	-	-	-	1	-	-	-	-	-	-
Aberdeen Prov. Ground	-	-	-	-	-	-	-	-	-	-	-
FT Belvoir, VA	-	1	2	-	1	1	-	2	1	-	-
FT Drum, NY	-	-	1	-	-	1	-	1	-	-	-
FT Eustis, VA	-	-	-	-	-	-	-	-	-	-	-
FT Knox, KY	1	-	-	-	-	-	-	-	1	-	-
FT Lee, VA	-	-	-	-	-	-	-	-	-	-	-
FT Meade, MD	-	-	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	-	-	-	-	-	-	-	-	-	-	-
CENTRAL HSSA											
Fitzsimons AMC	-	-	-	-	-	-	-	-	-	-	-
FT Carson, CO	-	1	1	1	-	1	-	1	1	-	-
FT Leonard Wood, MO	-	1	1	-	-	-	-	-	-	-	-
FT Leavenworth, KS	-	-	-	-	-	-	-	-	-	-	-
FT Riley, KS	-	1	-	-	-	1	-	-	-	-	-
SOUTH CENTRAL HSSA											
Brooke AMC	-	-	-	-	-	-	-	-	-	-	-
FT Hood, TX	-	-	-	-	1	-	-	-	-	-	-
FT Polk, LA	-	-	-	-	-	-	-	-	-	-	-
FT Sill, OK	-	-	-	-	-	-	-	-	-	-	-
Panama	2	2	7	1	2	1	2	2	9	-	-
SOUTHEAST HSSA											
Eisenhower AMC	-	-	-	-	-	2	-	-	1	-	-
FT Benning, GA	-	-	-	-	-	-	-	-	-	-	-
FT Bragg, NC	1	1	2	-	-	-	2	-	1	-	-
FT Campbell, KY	-	-	-	2	-	2	-	-	-	-	-
FT Jackson, SC	-	-	-	-	-	-	-	-	-	2	-
FT McClellan, AL	-	-	-	-	-	2	-	-	-	-	-
FT Rucker, AL	-	-	-	-	-	-	-	-	-	-	-
FT Stewart, GA	-	-	-	-	-	-	-	-	-	-	-
SOUTHWEST HSSA											
Wm Beaumont AMC	-	2	3	-	-	-	-	-	-	-	-
FT Huachuca, AZ	-	-	-	-	-	-	-	-	-	-	-
FT Irwin, CA	-	-	-	-	-	-	-	-	-	-	-
NORTHWEST HSSA											
Madigan AMC	-	1	1	-	-	-	2	-	-	-	-
FT Wainwright, AK	-	-	-	-	-	-	-	-	-	-	-
PACIFIC HSSA											
Tripler AMC	-	-	2	-	-	-	5	-	1	-	-
OTHER LOCATIONS											
Europe	1	2	3	-	-	-	2	2	-	-	-
Korea	1	-	2	-	-	3	-	-	-	-	-
Total	10	12	25	4	5	14	13	8	15	2	0

* Based on date of onset.

** Reports are included from parent and daughter clinics. Not all sites reporting.

Date of Report:

7-Jul-95

TABLE II. Cases of notifiable sexually transmitted diseases, United States Army.*
June, 1995

Reporting MTF/Post**	Chlamydia		Gonorrhea		Herpes Simplex		Syphilis Prim/Sec		Syphilis Latent		Urethritis non-spec.		Other STDs**	
	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995
NORTH ATLANTIC HSSA														
Walter Reed AMC	11	23	7	9	7	11	1	2	-	-	3	3	1	7
Aberdeen Prov. Ground	1	22	1	12	-	-	-	-	-	-	2	6	-	-
FT Belvoir, VA	4	13	1	10	-	2	-	1	-	-	-	-	2	3
FT Drum, NY	5	38	3	20	-	8	-	-	-	-	1	11	-	-
FT Eustis, VA	-	6	-	6	-	-	-	-	-	-	-	-	-	-
FT Knox, KY	-	121	-	33	-	27	-	-	-	-	-	-	-	-
FT Lee, VA	-	16	2	25	-	1	-	1	-	-	-	1	-	-
FT Meade, MD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTRAL HSSA														
Fitzsimons AMC	-	21	-	5	-	-	-	-	-	1	-	-	-	-
FT Carson, CO	15	150	5	64	9	43	-	-	-	-	17	164	-	3
FT Leonard Wood, MO	4	31	3	21	1	4	-	2	-	-	2	23	-	2
FT Leavenworth, KS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Riley, KS	7	68	1	15	-	-	-	2	-	-	-	-	-	-
SOUTH CENTRAL HSSA														
Brooke AMC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Hood, TX	-	329	-	159	-	16	-	3	-	8	-	58	-	2
FT Polk, LA	3	8	4	9	-	2	-	-	-	-	-	-	-	-
FT Sill, OK	5	40	9	44	-	4	-	-	-	-	5	15	-	4
Panama	-	-	-	8	2	7	-	6	-	-	-	-	1	3
SOUTHEAST HSSA														
Eisenhower AMC	-	35	-	15	-	13	-	2	-	-	-	2	-	2
FT Benning, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Bragg, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Campbell, KY	-	101	-	36	-	6	-	1	-	-	-	51	-	-
FT Jackson, SC	-	52	-	16	-	11	-	-	-	1	-	-	-	1
FT McClellan, AL	-	10	-	8	-	1	-	-	-	-	-	-	-	-
FT Rucker, AL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Stewart, GA	1	63	-	54	-	16	-	-	-	-	-	82	-	9
SOUTHWEST HSSA														
Wm Beaumont AMC	12	49	1	9	-	-	-	-	-	-	-	-	-	1
FT Huachuca, AZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Irwin, CA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NORTHWEST HSSA														
Madigan AMC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Wainwright, AK	5	19	1	9	-	-	-	-	-	1	-	-	-	-
PACIFIC HSSA														
Tripler AMC	20	96	3	42	10	68	-	-	-	-	-	-	-	2
OTHER LOCATIONS														
Europe	-	31	-	4	-	1	-	-	-	-	-	-	-	2
Korea	20	56	4	19	6	11	-	-	-	1	-	-	-	3
Total	113	1398	45	652	35	252	1	20	0	12	30	416	4	44

* Reports are included from parent and daughter clinics. Not all sites reporting.

Date of Report: 7-Jul-95

** Other STDs: (a) Chancroid (b) Granuloma Inguinale (c) Lymphogranuloma Venereum (d) Syphilis unsp. (e) Syph, tertiary (f) Syph, congenital

Continued from page 3

tities should be made available to contingents.

3. Cleaning supplies such as soap, disinfection solution, and scrubbing pads should be made available to the battalion for adequate cleaning of crockery and flatware.

4. For improved palatability, the chlorination of potable bulk water provided by the contractor should be lowered to 2-3 ppm available free chlorine.

5. Health care providers from each of the three contingents should send stool samples from their most severe diarrheal patients to the level 3 hospital's lab where microbiological testing can be performed.

6. A user-friendly disease and non-battle injury surveillance system should be extended beyond US forces to include all UN forces as an early warning system to detect developing health problems and to initiate timely intervention.

UN officials reacted quickly to these recommendations by providing bottled water from approved sources and supplies for adequate cleaning. Follow-up reports from the battalion suggest that diarrhea rate has returned to their previously low levels.

Submitted by COL L Martinez, MC, LTC J Drabick, MC MAJ J Gambel, MC and CPT M Swalko, MS, Task Force 86, Haiti.

Editorial Comment: This fourfold increase in diarrhea appears to be the result of a breakdown of basic sanitation and hygiene. This breakdown may not have one specific etiology, but rather may be the result of a number of sanitation problems.

In addition to non-approved food and water sources, inadequate disinfection and storage of eating utensils may have contributed to the increased diarrhea rate. Eating utensil field cleaning procedures must include a thorough scraping of food waste, washing utensils in 120-150 F soapy water,

rinsing them in boiling water to remove the soap, and sanitizing them in another container of boiling water. Food service disinfectant may also be used to disinfect if hot water is not available. Calcium hypochlorite can be used by mixing three MRE spoonfuls of calcium hypochlorite in ten gallons of water. Household bleach (5 percent) can also be used by mixing one canteen cup of bleach with 32 gallons of water. Always dip the utensils for a thirty second dip and allow them to air dry. Properly store the utensils to prevent contamination after they are clean and disinfected.

Additionally, proper transport, storage and preparation of food is required. Ensure all food service workers demonstrate good health and good personal hygiene. Inspect food service facilities for the adequacy of storage equipment and preparation facilities. General cleanliness and the presence of pests must also be noted since these factors are indicators or may directly contribute to illness. Evaluate all waste disposal practices to preclude them serving as a pest attractant or serving as a direct contaminant.

All company size units must have trained field sanitation teams assigned to assist the unit with preventive medicine countermeasures. These teams are paramount to the success of the small unit.

Additional information on these subjects can be found in AR 40-5, Preventive Medicine; FM 21-10, Field Hygiene and Sanitation; FM 21-10-1, Unit Field Sanitation Team; TB MED 577, Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies; and TB MED 530, Occupational and Environmental Health Food Service Sanitation.

Editorial comment submitted by MAJ WM McDevitt, Field Environmental Health program manager, USACHPPM, DSN: 584-2488

Case Reports

Malaria in Active Duty Soldiers

Patient 1

A 32 year old entomology technician with a history of travel and occupational risks for malaria was admitted to Walter Reed Army Medical Center (WRAMC) complaining of severe headache, exhaustion, and fever. He had spent three weeks in Honduras in October, 1994 collecting anopheline mosquitoes, vectors for vivax and falciparum malaria, and acting as a control in an insect repellent study. He had started his chloroquine prophylaxis only two days before departing to the malarious area, and he admits he may have missed a dose while in country due uncomfortable side effects.

He completed 14 days of primaquine terminal prophylaxis upon return. During this time or shortly after, he felt slightly ill and asked a fellow lab worker to examine a single blood smear, which was read as negative for parasites. The only *Plasmodium* species encountered in his work was falciparum; not vivax. In April, 1995, he became increasingly ill, with cycling symptoms and recovery. On admission his HCT was 37, and a blood smear revealed several stages of vivax parasites. He was treated with chloroquine and primaquine, and recovered.

Patient 2

A 28 year old medic with known G6PD deficiency was admitted to Tripler Army Medical Center (TAMC) with sudden onset of shaking chills one month after returning from a 2 month TDY in Haiti. Compliance with malaria prophylaxis was uncertain. On admission he was found to be anemic (HCT 30), leukopenic, and thrombocytopenic. Thick and thin blood smears were repeated four times, with one smear revealing one extra-erythrocytic merozoite believed to be *P. falciparum*. Serum was sent for specific antibodies. The patient was admitted and treated with chloroquine. He appeared to improve and was discharged. One week later he was

readmitted with fever, mild hepatitis, and lymphocytosis.

Patient 3

A 20 year old infantryman with a history of post-Somalia-deployment vivax malaria in June, 1993, and who was in Haiti from September, 1994, to January, 1995, was admitted to MEDDAC, Fort Drum, NY complaining of fevers and stating he had malaria. This soldier had presented to sick call 3 weeks previously with these complaints and was diagnosed with "flu". He returned to the clinic one week later with the same complaints. After one blood smear was read as negative, he was diagnosed with a viral infection.

The following week he returned to the clinic where a blood smear was read as positive for *Plasmodium vivax*. He was treated and placed on convalescent leave. The soldier stated he was compliant with prescribed prophylaxis during and after both deployments, and his previous malaria had been treated appropriately and apparently resolved.

Patient 4

A 38 year old combat engineer was in the Somalia region between Baidoa and Bardera from October to December, 1993 for his second Somalia tour. According to the patient, he was well, without episodes of fever or "flu-like" illnesses until early March, 1995. He had an acute onset of fever, chills and decreased appetite for one week before going to sick call. He was diagnosed with a viral syndrome at that time.

After one more week without clinical improvement, he was admitted to MEDDAC, Fort Benning, GA, where a diagnosis of *P. vivax* was made and successfully treated. The patient reports compliance with mefloquine chemoprophylaxis while in

Somalia, and for 3 weeks upon return. Although he wore permethrin-impregnated uniforms, he did not routinely use DEET on exposed skin as mosquitoes did not appear to be a problem.

Editorial Comment: Malaria is a major threat to deployed military forces in most tropical areas of the world. Untreated, malaria can be life threatening. Throughout history, malaria has been a significant threat to campaigning armies. As recently as the 1960s in Vietnam, US Army battalions were depleted of combat effectiveness and recalled from the field because of high attack rates from malaria. In recent years, there has been an outbreak and many sporadic cases of malaria among soldiers recently returned from operations overseas. The cases described in this report reinforce important points regarding malaria prevention and control in soldiers.

1) During preparations for deployment, all soldiers should be informed regarding significant health threats and appropriate countermeasures in the area of operations. In malarious areas, the threat of this serious but largely preventable disease should be emphasized.

2) To be effective, malaria chemoprophylaxis

must overlap the period of exposure. Soldiers must understand the importance of continuing chemoprophylaxis after redeployment.

3) Commanders are responsible for the health and welfare of their soldiers. They should enforce compliance with malaria chemoprophylaxis before, during, and following operations in malarious areas. Command surgeons and medical staffs should advise, educate, and assist commanders in designing and executing effective malaria prevention and control programs.

4) Medical care providers should consider malaria a potential diagnosis in any febrile soldier who recently returned from a malarious area. Multiple blood smears, both thick and thin, are necessary to adequately evaluate a patient in whom malaria is clinically suspected.

5) Malaria prevention through chemoprophylaxis and personal protection against mosquito vectors is highly effective. However, after operations in highly endemic areas, sporadic cases may be expected despite compliance with all prevention guidelines. In turn, reports of compliance with chemoprophylaxis should not rule out malaria when it is otherwise epidemiologically and clinically suspected.

Correction, Vol. 01 No. 03

In Figure 1, WRAMC TB Screening Program, the number of previously positive, untreated health care workers should read n = 235 (7.9%).

TABLE S1. Notifiable conditions reported through Medical Surveillance System, Jan-Jun 1995*

Diagnosis	Jan '95	Feb '95	Mar '95	Apr '95	May '95	Jun '95	Total
Amebiasis	-	-	-	-	-	-	0
Anthrax	-	-	-	-	-	-	0
Arboviral fever, unsp	-	-	-	-	-	-	0
Asbestosis	-	-	-	-	-	-	0
Botulism (adult)	-	-	-	-	-	-	0
Botulism (infant)	-	-	1	-	-	-	1
Brucellosis	-	-	-	-	-	-	0
Campylobacteriosis	5	7	9	6	11	12	50
Carbon monoxide intx	2	3	-	-	-	-	5
Chancroid	-	-	-	-	-	-	0
Chemical agent exp	-	27	-	1	-	-	28
Chlamydia	296	257	269	277	186	113	1398
Cholera	-	-	-	-	-	-	0
Coccidioidomycosis	1	-	-	-	1	-	2
CWI, unspecified	3	-	-	-	-	-	3
CWI, frostbite	15	21	9	-	-	-	45
CWI, hypothermia	-	8	1	-	-	-	9
CWI, immersion type	2	6	4	-	-	-	12
Dengue fever	-	-	-	-	-	-	0
Diphtheria	-	-	-	-	-	-	0
Ehrlichiosis	-	-	-	-	-	-	0
Encephalitis	2	-	-	-	-	-	2
Fatality, trainee	-	-	-	-	-	-	0
Fatality, occupat.	-	-	-	-	-	-	0
Giardiasis	-	3	2	1	5	3	14
Gonorrhea	175	129	107	109	87	45	652
Granuloma Inguinale	-	-	-	-	-	-	0
Guillain-Barre Syndrome	-	-	1	-	-	-	1
H. influenzae, inv	-	-	-	-	-	-	0
Heat exhaustion	1	2	-	1	16	16	36
Heat stroke	-	-	-	3	1	2	6
Hemorrhagic fever	-	-	-	-	-	-	0
Hepatitis A, Acute	3	-	-	3	1	-	7
Hepatitis B, Acute	3	3	2	5	2	2	17
Hepatitis C, Acute	-	2	2	1	1	1	7
Hepatitis, unspec	-	-	5	4	-	-	9
Herpes Simplex	31	38	56	53	39	35	252
Influenza, unspec.	-	-	-	-	-	-	0
Influenza, type A	10	15	3	1	1	-	30
Influenza, type B	-	1	4	3	-	-	8
Kawasaki syndrome	-	-	-	1	1	-	2
Lead poisoning	-	-	-	-	-	1	1
Legionellosis	2	-	-	-	-	-	2
Leish, unspecified	-	-	-	-	-	-	0
Leish, cutaneous	-	-	2	-	-	-	2
Leish, mucocutaneous	-	-	-	-	-	-	0
Leish, visceral	-	-	-	-	-	-	0
Leish, viscerotropic	-	-	-	-	-	-	0
Leprosy	-	-	-	-	-	-	0
Leptospirosis	-	-	-	-	-	-	0
Listeriosis	-	-	-	-	-	-	0
Lyme disease	1	1	1	1	1	1	6
Lymphogranuloma Vnrm	1	2	1	1	4	-	9

(Continued)

TABLE S1. Notifiable conditions reported through Medical Surveillance System* (continued).

Diagnosis	Jan '95	Feb '95	Mar '95	Apr '95	May '95	Jun '95	Total
Malaria, unspecified	1	-	-	-	-	-	1
Malaria, vivax	1	1	1	2	1	-	6
Malaria, falciparum	-	-	1	1	-	-	2
Malaria, malariae	-	-	-	-	-	1	1
Malaria, ovale	-	-	-	-	-	-	0
Measles	1	1	-	-	2	-	4
Meningitis, Viral	2	8	6	5	2	3	26
Meningitis, Bact.	1	5	5	3	2	1	17
Mercury intoxication	-	-	-	-	-	-	0
Mumps (adults only)	1	2	1	-	-	-	4
Mycobacterial inf.	1	-	1	-	2	-	4
Pertussis	-	1	-	-	-	-	1
Plague	-	-	-	-	-	-	0
Pneumococcal pneum.	-	6	13	6	1	-	26
Poliomyelitis	-	-	-	-	-	-	0
Psittacosis	-	-	-	-	-	-	0
Q fever	-	-	-	-	-	-	0
Rabies, human	-	-	-	-	-	-	0
Radiation, ionizing	-	-	-	-	-	-	0
Radiation, non-ionizing	-	-	-	-	-	-	0
Relapsing fever	-	-	-	-	-	-	0
Reye syndrome	-	-	-	-	-	-	0
Rhabdomyolysis	-	2	5	6	2	-	15
Rheumatic fever	-	-	-	-	-	-	0
Rift Valley Fever	-	-	-	-	-	-	0
RMSF	-	-	-	-	-	-	0
Rubella	-	-	-	1	-	-	1
Salmonellosis	8	12	4	6	7	16	53
Schistosomiasis	-	-	-	-	-	-	0
Shigellosis	3	3	6	3	5	7	27
Smallpox	-	-	-	-	-	-	0
Syphilis, unspec.	4	2	1	1	3	1	12
Syphilis, prim/sec	8	4	5	1	1	1	20
Syphilis, latent	4	5	1	2	-	-	12
Syphilis, tertiary	2	-	-	1	2	1	6
Syphilis, congenital	-	-	-	-	-	-	0
Tetanus	-	-	-	-	-	-	0
Toxic shock syndrome	-	-	-	-	-	-	0
Toxoplasmosis	-	-	-	-	-	-	0
Trichinellosis	-	-	1	-	-	-	1
Trypanosomiasis,Afr	-	-	-	-	-	-	0
Trypanosomiasis,Amer	-	-	-	-	-	-	0
Tuberculosis (TB)	5	1	4	2	2	1	15
TB, multi-drug resistant	-	-	-	-	-	-	0
Tularemia	-	-	1	-	-	-	1
Typhoid fever	-	-	-	-	-	-	0
Typhus fever	-	-	-	-	-	-	0
Urethritis, Non-specific	110	84	73	58	61	30	416
Vaccine advrs event	1	-	-	-	-	-	1
Varicella,adult only	38	34	21	19	11	4	127
Yellow fever	-	-	-	-	-	-	0
Total	744	696	629	588	461	297	3415

* Based on date of onset.

TABLE S2. Reported heat and cold weather injuries, United States Army, Jan-Jun 1995*

Reporting MTF/Post**	Heat Injuries				Cold Weather Injuries							
	Heat Exhaustion		Heat Stroke		Frostbite		Hypothermia		Immersion		Unspecified	
	M	F	M	F	M	F	M	F	M	F	M	F
NORTH ATLANTIC HSSA												
Walter Reed AMC	-	-	-	-	-	-	-	-	-	-	-	-
Aberdeen Prov. Ground	-	-	-	-	-	-	-	-	-	-	-	-
FT Belvoir, VA	1	-	-	-	-	-	-	-	-	-	-	-
FT Drum, NY	3	-	1	-	13	2	-	-	5	1	-	-
FT Eustis, VA	-	-	-	-	-	-	-	-	-	-	-	-
FT Knox, KY	-	-	-	-	-	-	-	-	-	-	-	-
FT Lee, VA	-	2	-	-	-	-	-	-	-	-	-	-
FT Meade, MD	-	-	-	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	-	-	-	-	-	-	-	-	-	-	-	-
CENTRAL HSSA												
Fitzsimons AMC	-	-	-	-	-	-	-	-	-	-	-	-
FT Carson, CO	-	-	-	-	-	-	-	-	-	-	-	-
FT Leonard Wood, MO	-	-	-	-	-	1	-	-	-	-	-	-
FT Leavenworth, KS	-	-	-	-	-	-	-	-	-	-	-	-
FT Riley, KS	-	-	-	-	-	-	1	-	-	-	-	-
SOUTH CENTRAL HSSA												
Brooke AMC	-	-	-	-	-	-	-	-	-	-	-	-
FT Hood, TX	4	1	-	-	-	-	-	-	-	-	-	-
FT Polk, LA	1	-	3	-	-	-	-	-	-	-	-	-
FT Sill, OK	-	-	-	-	-	-	-	-	-	-	-	-
Panama	4	-	-	-	-	-	-	-	-	-	-	-
SOUTHEAST HSSA												
Eisenhower AMC	-	-	-	-	-	-	-	-	-	-	-	-
FT Benning, GA	2	2	1	-	3	-	7	-	4	-	-	-
FT Bragg, NC	-	-	-	-	-	-	-	-	-	-	-	-
FT Campbell, KY	-	-	-	-	-	-	-	-	-	-	-	-
FT Jackson, SC	-	-	-	-	-	-	-	-	-	-	-	-
FT McClellan, AL	-	-	-	-	-	-	-	-	-	-	-	-
FT Rucker, AL	-	-	-	-	-	-	-	-	-	-	-	-
FT Stewart, GA	-	-	-	-	-	-	-	-	-	-	-	-
SOUTHWEST HSSA												
Wm Beaumont AMC	-	-	-	-	-	-	-	-	-	-	-	-
FT Huachuca, AZ	-	-	-	-	-	-	-	-	-	-	-	-
FT Irwin, CA	-	-	-	-	-	-	-	-	-	-	-	-
NORTHWEST HSSA												
Madigan AMC	-	-	-	-	-	-	-	-	-	-	-	-
FT Wainwright, AK	-	-	-	-	10	7	-	-	-	-	-	-
PACIFIC HSSA												
Tripler AMC	-	-	-	-	-	-	-	-	-	-	-	-
OTHER LOCATIONS												
Europe	-	-	-	-	-	-	-	-	-	1	2	1
Korea	-	-	-	-	7	1	-	-	-	-	-	-
Total	15	5	5	0	33	11	8	0	9	2	2	1

* Army active duty cases only.

** Reports are included from parent and daughter clinics. Not all sites reporting.

Date of Report:

7-Jul-95

TABLE S3. Cases of notifiable sexually transmitted diseases, United States Army, Jan-Jun 1995*

Reporting MTF/Post**	Chlamydia				Urethritis non-spec.				Gonorrhea				Herpes Simplex				Syphilis Prim/Sec				Syphilis Latent			
	Active Duty		Other		Active Duty		Other		Active Duty		Other		Active Duty		Other		Active Duty		Other		Active Duty		Other	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
NORTH ATLANTIC HSSA																								
Walter Reed AMC	4	5	2	12	3	-	-	-	3	1	4	1	2	3	2	4	-	-	1	1	-	-	-	-
Aberdeen Prov. Ground	5	7	1	8	5	-	1	-	6	2	3	1	-	-	-	-	-	-	-	-	-	-	-	-
FT Belvoir, VA	3	3	-	7	-	-	-	-	4	-	1	5	-	-	-	2	-	1	-	-	-	-	-	-
FT Drum, NY	22	8	-	8	11	-	-	-	17	1	2	-	7	1	-	-	-	-	-	-	-	-	-	-
FT Eustis, VA	3	3	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Knox, KY	37	24	6	54	-	-	-	-	23	1	2	7	8	3	2	14	-	-	-	-	-	-	-	-
FT Lee, VA	3	11	1	1	1	-	-	-	15	4	4	2	1	-	-	-	1	-	-	-	-	-	-	-
FT Meade, MD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTRAL HSSA																								
Fitzsimons AMC	1	-	2	18	-	-	-	-	2	-	1	2	-	-	-	-	-	-	-	-	-	-	1	-
FT Carson, CO	61	35	7	47	141	-	23	-	43	14	1	6	18	10	2	13	-	-	-	-	-	-	-	-
FT Leonard Wood, MO	6	8	2	15	16	-	7	-	13	4	-	4	2	2	-	-	1	-	-	1	-	-	-	-
FT Leavenworth, KS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Riley, KS	11	13	-	44	-	-	-	-	7	1	-	7	-	-	-	-	2	-	-	-	-	-	-	-
SOUTH CENTRAL HSSA																								
Brooke AMC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Hood, TX	116	130	4	78	56	-	2	-	102	35	6	15	13	2	-	1	2	1	-	-	4	1	-	3
FT Polk, LA	1	2	2	3	-	-	-	-	3	2	2	2	1	-	1	-	-	-	-	-	-	-	-	-
FT Sill, OK	22	6	3	9	11	4	-	-	28	3	4	9	3	1	-	-	-	-	-	-	-	-	-	-
Panama	-	-	-	-	-	-	-	-	3	2	-	3	1	2	-	4	-	-	-	6	-	-	-	-
SOUTHEAST HSSA																								
Eisenhower AMC	10	15	2	8	2	-	-	-	7	5	1	2	7	5	-	1	2	-	-	-	-	-	-	-
FT Benning, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Bragg, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Campbell, KY	18	54	-	28	47	2	2	-	25	6	-	5	3	1	-	2	1	-	-	-	-	-	-	-
FT Jackson, SC	4	43	-	5	-	-	-	-	5	8	2	1	1	5	-	5	-	-	-	-	1	-	-	-
FT McClellan, AL	3	4	2	1	-	-	-	-	2	2	1	3	-	-	1	-	-	-	-	-	-	-	-	-
FT Rucker, AL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Stewart, GA	1	31	1	30	78	1	3	-	42	7	1	4	9	5	-	2	-	-	-	-	-	-	-	-
SOUTHWEST HSSA																								
Wm Beaumont AMC	11	8	1	29	-	-	-	-	3	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-
FT Huachuca, AZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Irwin, CA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NORTHWEST HSSA																								
Madigan AMC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Wainwright, AK	7	7	-	5	-	-	-	-	5	1	1	2	-	-	-	-	-	-	-	-	-	-	1	-
PACIFIC HSSA																								
Tripler AMC	39	16	5	36	-	-	-	-	29	4	1	8	24	15	2	27	-	-	-	-	-	-	-	-
OTHER LOCATIONS																								
Europe	15	4	-	12	-	-	-	-	2	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-
Korea	10	37	1	7	-	-	-	-	9	8	-	2	2	5	2	2	-	-	-	-	-	-	-	1
Sub-Total	413	474	42	465	371	7	38	0	404	114	38	95	103	60	12	77	8	3	1	8	5	1	2	4
Total	887		507		378		38		518		133		163		89		11		9		6		6	

* Active Duty refers to Army Active Duty only.

** Reports are included from parent and daughter clinics. Not all sites reporting.

Date of Report: 7-Jul-95

ARD Surveillance UpdateLegend

—	ARD Rate	= (ARD cases / Trainees) * 100
■ ■ ■	SASI*	= ARD Rate * Strep Rate**

FT Benning

Ft Jackson

Ft Knox

Ft Leonard
Wood

Ft McClellen

Ft Sill

Table IV. ARD surveillance rates, submitted by Army TRADOC posts

* Strep/ARD Surveillance Index (SASI)

**Strep Rate = (GABHS(+)) / Cultures) * 100

Note: SASI has proven to be a reliable predictor of serious strep-related morbidity, especially acute rheumatic fever.

TABLE S4. Active Duty Force Strength by MTF, United States Army, Mar 1995*

MTF/Post**	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total M	< 20	20-24	25-29	30-34	35-39	>= 40	Total F	
NORTH ATLANTIC HSSA															
Walter Reed AMC	56	1516	1493	1615	2053	3722	10455	13	425	606	555	497	608	2704	13159
Aberdeen Prov. Ground	155	713	385	470	552	442	2717	39	146	98	67	46	29	425	3142
FT Belvoir, VA	1	358	444	394	378	450	2025	5	131	137	101	98	81	553	2578
FT Drum, NY	208	3910	2525	1521	1050	676	9890	21	387	212	130	80	41	871	10761
FT Eustis, VA	116	1511	1172	1075	956	991	5821	34	403	326	214	152	97	1226	7047
FT Knox, KY	595	3478	2082	1868	1725	1182	10930	14	283	292	195	180	102	1066	11996
FT Lee, VA	147	975	674	641	604	525	3566	139	511	276	212	157	66	1361	4927
FT Meade, MD	12	883	1204	1115	1022	1354	5590	6	304	333	272	245	174	1334	6924
USMA, West Point, NY	9	707	680	930	962	865	4153	8	144	116	142	124	98	632	4785
CENTRAL HSSA															
Fitzsimons AMC	14	188	254	226	244	278	1204	3	89	126	75	71	76	440	1644
FT Carson, CO	245	5237	4279	2746	1825	1217	15549	21	732	614	302	195	100	1964	17513
FT Leonard Wood, MO	353	2204	1180	1087	944	582	6350	157	588	268	205	109	81	1408	7758
FT Leavenworth, KS	24	302	343	454	1009	812	2944	2	85	84	79	119	50	419	3363
FT Riley, KS	226	4849	3408	2129	1538	940	13090	23	594	400	243	179	86	1525	14615
SOUTH CENTRAL HSSA															
Brooke AMC	187	1160	1114	1059	1007	1195	5722	129	497	448	429	361	347	2211	7933
FT Hood, TX	712	13805	10346	6423	4670	3004	38960	114	2137	1607	892	586	332	5668	44628
FT Polk, LA	165	3138	2123	1500	1092	632	8650	23	465	309	180	116	83	1176	9826
FT Sill, OK	704	5103	2958	1972	1574	992	13303	18	450	331	228	139	85	1251	14554
Panama	27	1332	1445	1083	870	734	5491	10	234	201	147	121	67	780	6271
SOUTHEAST HSSA															
Eisenhower AMC	449	2273	1549	1313	1631	1510	8725	109	594	493	411	323	300	2230	10955
FT Benning, GA	815	5653	3490	2363	1666	1029	15016	32	426	351	249	142	87	1287	16303
FT Bragg, NC	544	13492	10387	7148	5001	3105	39677	55	1540	1259	750	469	244	4317	43994
FT Campbell, KY	393	7376	5989	3647	2331	1374	21110	36	937	651	369	225	110	2328	23438
FT Jackson, SC	430	1815	827	873	731	478	5154	390	1277	440	330	184	87	2708	7862
FT McClellan, AL	198	949	571	708	698	578	3702	82	362	185	155	125	66	975	4677
FT Rucker, AL	27	822	1250	863	605	608	4175	12	197	183	110	72	40	614	4789
FT Stewart, GA	340	6726	4917	2913	2086	1256	18238	44	789	669	392	219	125	2238	20476
SOUTHWEST HSSA															
Wm Beaumont AMC	282	3472	2766	1837	1542	1346	11245	45	631	443	265	198	188	1770	13015
FT Huachuca, AZ	97	1268	1140	1010	828	685	5028	51	353	238	198	164	108	1112	6140
FT Irwin, CA	81	1451	1021	780	620	392	4345	5	177	128	82	53	31	476	4821
NORTHWEST HSSA															
Madigan AMC	250	6142	4801	3410	2447	1861	18911	47	997	785	465	319	259	2872	21783
FT Wainwright, AK	61	2123	1754	1164	780	426	6308	18	279	205	167	98	61	828	7136
PACIFIC HSSA															
Tripler AMC	149	5639	4470	2852	2054	1421	16585	15	710	672	443	343	233	2416	19001
OTHER LOCATIONS															
Europe	546	18732	16895	11691	8806	5948	62618	92	3028	2504	1720	1227	713	9284	71902
Korea	600	8215	6403	4555	3797	2500	26070	107	1493	1058	772	523	300	4253	30323
Unknown	307	3113	4169	6275	5502	4843	24766 [§]	49	529	680	756	624	370	3127 [§]	28644 [§]
Total	9525	140630	110508	81710	65200	49953	458083	1968	22924	17728	12302	8883	5925	69849	528683

* Based on duty zip code. Does not account for TDY.

§ Includes unknown age groups and unknown gender.

** Includes any subordinate catchment areas not listed separately.

Source: Defense Manpower Data Center (DMDC)

DEPARTMENT OF THE ARMY
U.S. Army Center for Health Promotion
and Preventive Medicine (Provisional)
Aberdeen Proving Ground, MD 21010-5422

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